



AMENDMENT UNDER 37 C.F.R. §1.111
U.S. APPLN. NO. 10/668,309

DOCKET NO. Q77243

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A harness comprising:

a cable comprising a plurality of conductors surrounded by an insulating covering and arrayed in a substantially flat configuration; and

a plurality of connectors installed at locations along the longitudinal direction of said cable and comprising connection terminals that connect to ones of said plurality of conductors, and connect external circuits to said ones of said plurality of conductors; wherein:

at least one of said plurality of connectors is a relay connector, and the relay connector is installed between two of the other ones of said plurality of connectors;

said relay connector comprises a plurality of said connection terminals;

a selected one of said ones of said plurality of conductors to which said connection terminals are connected is cut at a position between the connection terminals; and

the connection terminals disposed at both sides of cut parts of said conductors form respectively different circuits.

2. (original) A harness according to claim 1, wherein said cable is a flat cable having a structure in which each conductor of said plurality of conductors is covered by an insulating covering, and each of these insulating coverings are joined together.

3. (original) A harness according to claim 2, wherein each conductor is cylindrical in cross section.

4. (original) A harness according to claim 1, wherein said cable is a flexible flat cable having a structure wherein said plurality of conductors is covered by an insulating covering formed so as to be flat by lamination or extrusion.

5. (canceled).

6. (original) A cable according to claim 1, wherein said connection terminals are crimping-style terminals that have a crimping part which holds insulating covering of said cables at the proximal end side and interposes and crimps said conductors therebetween.

7. (original) A harness according to claim 1, wherein said connector comprises:
a connector housing; and
a mold part that is formed at an end on one side of the connector housing and seals the proximal ends of said connecting terminals which are connected to the conductors of said cable in said connector housing.

8. (original) A harness according to claim 7, wherein said mold part extends along the cable a greater distance than the connector housing, and comprises grooves arranged orthogonally to the direction of extension of the cable; wherein said grooves allow the ends of the mold part to flex and prevent breakage of the mold part and the cable.

9. (currently amended) A harness according to claim 1, wherein further comprising:
~~a relay connector installed between two of said plurality of conductors and comprising connection terminals that connect to each of said plurality of conductors, wherein:~~
said cut in said selected one of said ones of said plurality of conductors is arranged within said relay connector.

10. (original) A harness according to claim 9, wherein said relay connector comprises:
a relay connector housing; and
a mold part that is formed at an end on one side of the relay connector housing and seals the proximal ends of said connecting terminals which are connected to the conductors of said cable in said relay connector housing.

11. (original) A harness according to claim 10, wherein said mold part extends along the cable a greater distance than the relay connector housing, and comprises grooves arranged orthogonally to the direction of extension of the cable; wherein said grooves allow the ends of the mold part to flex and prevent breakage of the mold part and the cable.

12. (original) A harness according to claim 10, wherein cutting scraps from said cut in said selected one of said ones of said plurality of conductors are sealed in said connector housing by said mold part.

13. (original) A harness according to claim 10, wherein said selected one, of said ones of said plurality of conductors, that is cut and separated is sealed in said connector housing by said mold part in a state in which each of two cut surfaces are respectively bent so as not to contact or face each other.

14. (original) A harness according to claim 10, wherein the relay connector housing comprises positioning projections that are inserted in said cut in said selected one of said ones of said plurality of conductors, for positioning each of the conductors of said cable and said connection terminals.

15. (withdrawn) A manufacturing method for a harness that comprises a cable comprising a plurality of conductors surrounded by an insulating covering and arrayed in a substantially flat configuration, and a plurality of connectors installed at locations along the longitudinal direction of said cable and comprising connection terminals that connect to ones of said plurality of conductors, and connect external circuits to said ones of said plurality of conductors, comprising:

a connector installation step of installing each of said plurality of connectors at predetermined positions in the longitudinal direction of said cable such that said connection terminals and said ones of said plurality of conductors are connected; and

a conductor cutting step of cutting a selected one of said conductors at a point between the plurality of connection terminals that are disposed along said conductor.

16. (withdrawn) A manufacturing method for a harness according to claim 15, wherein the conductor cutting step and the connector installation step are performed at the same time.

17. (withdrawn) A manufacturing method for a harness according to claim 15, wherein the conductor cutting step is performed before the connector installation step.

18. (withdrawn) A manufacturing method for a harness according to claim 15, wherein the harness further comprises a relay connector,
the relay connector is installed at a predetermined position on the cable during the connector installation step;

and the conductor cutting step is performed on a portion of the selected one of said conductors located within the relay connector

19. (withdrawn) A manufacturing method for a harness according to claim 15, wherein said connector installation step further includes a molding step in which the proximal ends of the

connection terminals and relay terminal connected to the conductors of said cable are sealed by a resin.

20. (withdrawn) A manufacturing method for a harness according to claim 19, wherein said molding step is accomplished by injection molding.

21. (withdrawn) A manufacturing method for a harness according to claim 19 wherein the cutting scraps of said selected one of said conductors cut in said conductor cutting step are sealed with the proximal ends of said relay terminal in said molding step.

22. (withdrawn) A manufacturing method for a harness according to claim 19, wherein said molding step also comprises a bending step of bending said selected one of said conductors that has been cut and separated in said conductor cutting step such that the respective cut surfaces do not contact or face each other, and sealing each of said bent conductors in an enclosed state.

23. (withdrawn) A manufacturing method for a harness according to claim 15, wherein said connection terminals are crimping-style terminals having a crimping part in which insulating coating of the cable is held at the proximal side and the conductors are interposed therebetween, and said connector installation step is a crimping step in which each of the conductors is interposed in the crimping part of the connection terminals and crimped.

24. (currently amended) A harness comprising:

a cable comprising a plurality of conductors surrounded by an insulating covering and arrayed in a substantially flat configuration;

a relay connector installed on the cable; and

at least two connectors, each one installed on the cable on either side of the relay connector, wherein:

a first one of said plurality of conductors extends from a first one of said connectors, passes through said relay connector, and extends to a second one of said connectors; and

a second one of said plurality of ~~connectors~~ conductors extends from the first connector to the relay connector, is cut within the relay connector, and then extends from the relay connector to the second connector.

25. (original) A harness according to claim 24, wherein said cable is a flat cable having a structure in which each conductor of said plurality of conductors is covered by an insulating covering, and each of these insulating coverings are joined together.

26. (original) A harness according to claim 25, wherein each conductor is cylindrical in cross section.

27. (original) A harness according to claim 24, wherein said cable is a flexible flat cable having a structure wherein said plurality of conductors is covered by an insulating covering formed so as to be flat by lamination or extrusion.

28. (canceled).

29. (original) A cable according to claim 24, wherein said first, second and relay connectors are electrically connected to specific conductors by way of connection terminals, wherein

said connection terminals comprise crimping-style terminals that have a crimping part which holds an insulating covering of the cables and interposes and crimps said conductors therebetween.

30. (original) A harness according to claim 29, wherein said first, second and relay connectors comprise:

a connector housing; and

a mold part that is formed at an end on one side of the connector housing and seals the proximal ends of said connecting terminals which are connected to the specific conductors of said cable in said connector housing.

31. (original) A harness according to claim 30, wherein said mold part extends along the cable a greater distance than the connector housing, and comprises grooves arranged orthogonally to the direction of extension of the cable; wherein said grooves allow the ends of the mold part to flex and prevent breakage of the mold part and the cable.

32. (original) A harness according to claim 30, wherein cutting scraps from said cut in said second one of said plurality of conductors are sealed in said connector housing by said mold part.

33. (original) A harness according to claim 30, wherein said second one of said plurality of conductors that is cut and separated is sealed in said connector housing by said mold part in a state in which each of two cut surfaces are respectively bent so as not to contact or face each other.

34. (original) A harness according to claim 30, wherein the connector housing comprises positioning projections that are inserted in said cut in said second one of said plurality of conductors, for positioning each of the conductors of said cable and said connection terminals.